Calculating Pressure Drop – Practice Problem Answers

Practice Problem 1

A 6-inch main is being tapped for a service line. The pressure at the meter is 52 psi. The two story house with 12 ft ceilings sits on a hill and has an upstairs bathroom. The meter is at an elevation of 266 ft and the house sits at an elevation of 350 ft. What is the pressure delivered to the upstairs bathroom from the meter?

Difference in elevation
266 ft - (350 ft + 12 ft)
(266 ft - 362 ft) = -96 ft

Pressure Drop
-96 x .433 = -41.57 psi

Pressure Delivered to the Upstairs Bathroom
52 psi – 41.57 psi
10.43 psi

Practice Problem 2

A 6-inch main is being tapped for a service line. The pressure at the meter is 47 psi. The house sits on a hill. The meter is at an elevation of 295 ft and the house sits at an elevation of 352 ft. What is the pressure delivered to the upstairs bathroom from the meter?

Difference in Elevation
295 ft - 352 ft = -57 ft

Pressure Drop
-57 x .433 = -24.68 psi

Pressure Delivered to the House
47 psi – 24.68 = 22.32